



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/557,696	11/22/2005	Karlheinz Bartzke	P70852US0	7897
136 7590 03/06/2007 JACOBSON HOLMAN PLLC 400 SEVENTH STREET N.W. SUITE 600 WASHINGTON, DC 20004			EXAMINER DOAK, JENNIFER L	
			ART UNIT	PAPER NUMBER
			2809	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/06/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/557,696

Applicant(s)

BARTZKE ET AL.

Examiner

Jennifer L. Doak

Art Unit

2809

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/22/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/27/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Status of the Application***

1. Claims 1-5 are pending in this application.
  - a. Claims 1-5 are rejected under 35 U.S.C. 103(a).
  - b. Other objections regarding formalities are also herein addressed.
2. If applicant is aware of any prior art of other co-pending application not already of record, he/she is reminded of his/her duty under 37 CFR 1.56 to disclose the same.

### ***US National Phase of PCT***

3. Acknowledgment is made that this application is the US national phase of international application PCT/JP03/11956 filed 19 September 2003 which designated the U.S. and claims benefit of JP 2002-290448, filed 2 October 2002.

### ***Foreign Priority***

4. Acknowledgment is made that the certified copy of the foreign priority document has been received in the national stage application from the International Bureau..

### ***Specification***

5. The disclosure is objected to because of the following informalities: the specification fails to meet the requirements of MPEP 608.01(a), which requires that the specification include, especially, a Summary of the Drawings or notice of non-applicability in the application. Additionally, there is no title delineation between the "Summary of Invention" or the "Detailed Description of the Invention."
6. Moreover, the disclosure fails to specifically discuss Figure 1, though it does reference the elements included in Figure 1. Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. **Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bagby (U.S.P. No. 3,082,674) in view of Lee et al. (U.S.P. No. 6,071,426).**

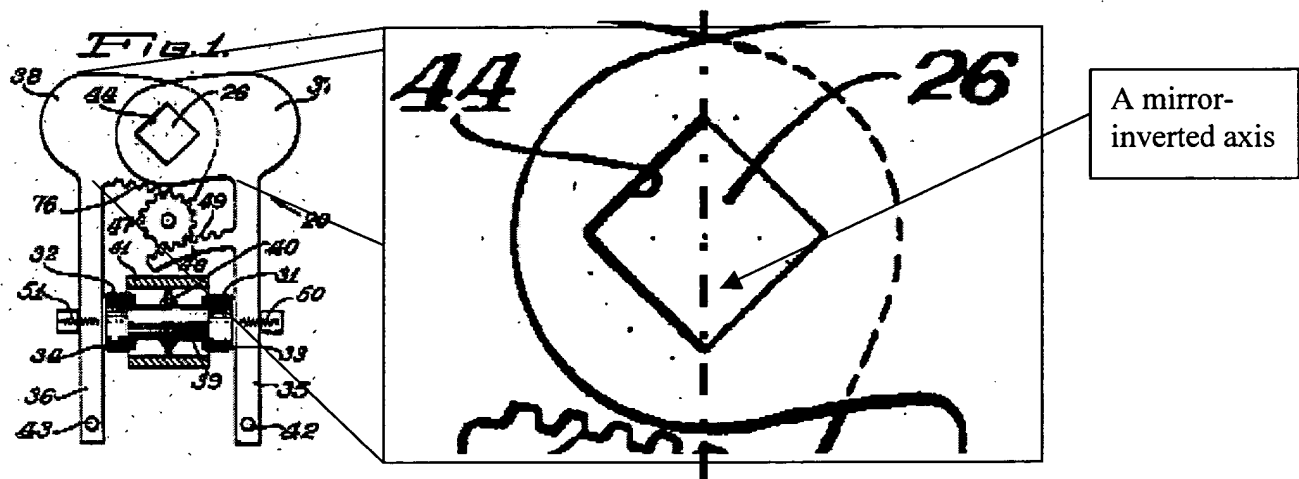
11. Regarding Claim 1, Bagby teaches (in Figs. 1, 2, and 3; column 3, lines 2-28, 36-62) an adjustable pinhole (26) for an optical system where the adjustable pinhole comprises: first (44)

Art Unit: 2809

and second (45) apertures movable relative to each other, each of the apertures having a rectangular mirror-inverted opening, the relative movement of the apertures defining a pinhole of varying size (Figs. 1, 2, and 3; column 3, lines 2-62).

12. It may be seen that the square openings of the apertures disclosed by Bagby may be indicated with a line of symmetry, or an axis about which the opening has a shape that is mirror-inverted.

For example, as can be seen below from the reference images, the left side corner of the diamond (26), which is a rotated square/rectangle, is a mirror image of the right corner.



(Reproduced for reference from Bagby U.S.P. No. 3,082,674.)

13. Bagby does not teach that the apertures be made of silicon or that the structure could be used in a laser scanning microscope.

14. However, Lee et al. does teach methods of machining bulk silicon to make optical components including pinholes and micro-optical scanners (Lee et al., Abstr; col. 2, line 48- col. 3, line 4), both of which are commonly used elements in laser scanning systems, including microscopes.

15. Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the teachings of Lee et al. in the device of Bagby, since it is desirable to reduce element size and cost (Lee et al., col. 2, line 65-67), incorporate other silicon micro-machining techniques, doping, and bonding, miniaturize elements, and take advantage of silicon crystalline planes (Lee et al., col. 1, line 63 – col. 2, line 22).

16. Regarding Claim 2, Bagby and Lee et al. teach all the elements of Claim 1, upon which this claim depends, and Bagby teaches the further limitation that the first (44) and second (45) silicon apertures are displaceable with respect to one another in a first direction (Figs. 1, 2, and 3; column 3, lines 2-62).

17. Regarding Claim 3, Bagby and Lee et al. teach all the elements of Claim 2, upon which this claim depends. Bagby teaches displacement in a first direction as shown in Claim 2.

18. Bagby does not explicitly teach the further limitation that at least one of said silicon apertures is displaceable in a second direction perpendicular to the first direction for adjustment to obtain an exact square form for the configuration of the pinhole.

19. However, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to have duplicated the adjustment or displacement mechanism, from the first direction, in a second, perpendicular direction to retain the square shape, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8 (1977).

20. Regarding Claim 4, Bagby and Lee et al. teach all the elements of Claim 3, upon which this claim depends, and Bagby teaches the further limitation that the apertures are fastened on

Art Unit: 2809

flexible solid joints, which are arranged in a rigid manner in the first direction and are flexible in the second direction (Figs. 1, 2, and 3; column 3, lines 2-62).

21. Regarding Claim 5, Bagby teaches (in Figs. 1, 2, and 3; col. 2, lines 19-24; col. 3, lines 2-28, 36-62) a method for adjustment of a pinhole (26) in a having a photo-receiver (21), the method comprising the steps of:

- a. Forming a square-shaped pinhole (26) from first (44) and second (45) apertures, each one with a rectangular mirror inverted opening. It may be seen that the square openings of the apertures disclosed by Bagby may be indicated with a line of symmetry, or an axis about which the opening has a shape that is mirror-inverted. As can be seen from the above reference images, the left side corner of the diamond (26), which is a rotated square/rectangle, is a mirror image of the right corner.
- b. Passing light through the pinhole (Fig. 3); and
- c. Moving the apertures to maximize the light received by the photo-receiver (Figs. 1-3, col. 2, lines 19-24; col. 3, lines 2-28, 36-62).

21. Bagby does not teach that the apertures be made of silicon or that the structure could be used in a laser scanning microscope.

22. However, Lee et al. does teach methods of machining bulk silicon to make optical components, including pinholes and micro-optical scanners (Lee et al., Abstr; col. 2, line 48- col. 3, line 4), both of which are commonly used elements in laser scanning systems such as microscopes.

23. Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the teachings of Lee et al. in the device of Bagby, since it is

Art Unit: 2809

desirable to reduce element size and cost (Lee, col. 2, line 65-67), incorporate other silicon micro-machining techniques, doping, and bonding, miniaturize elements, and take advantage of silicon crystalline planes (Lee et al. col. 1, line 63 – col. 2, line 22).

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer L. Doak whose telephone number is 571-272-9791. The examiner can normally be reached on Mon-Thur: 7:30A-5:00P, Alt Fri: 7:30A-4:00P (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm E. Ullah can be reached on 571-272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

---

---

Jennifer Doak ,  
Patent Examiner  
Tel.: 571-272-9791  
Fax: 571-273-9791

  
AKM ULLAH  
SUPERVISORY PATENT EXAMINER